

CLAIMS

1. An alternating current (AC) generator including an armature core having a plurality of teeth separated by intervening slots with a slot pitch, at least one multiphase winding disposed on said armature core, and a rotor disposed in said armature having a plurality of pairs of rotor poles, each pair respectively configured for energization in opposite magnetic polarity, said poles comprising a trapezoidal shape having a base, a leading side, a trailing side, and a tip side, said leading side having a plurality of portions.
2. The AC generator of claim 1 wherein said leading side has a first portion extending from said tip sloping at a first rate, said leading side having a second portion extending from said first portion sloping at a second rate less than said first rate.
3. The AC generator of claim 2 wherein said first portion slopes between about one and two slot pitches and said second portion slopes between about one-half and one and one-half slot pitches.
4. The AC generator of claim 3 wherein said first portion slopes about one slot pitch, said second portion slopes about three-quarters slot pitch.
5. The AC generator of claim 1 wherein said tip side is offset relative to said base, wherein said leading edge has a first portion extending from said tip sloping at a first rate, said leading side having a second portion extending from said first portion sloping at a second rate less than said first rate.
6. The AC generator of claim 5 wherein said first portion slopes between about one and two slot pitches and said second portion slopes between about one-half and one and one-half slot pitches.

7. The AC generator of claim 6 wherein said first portion slopes about one slot pitch, said second portion slopes about three-quarters slot pitch.

8. The AC generator of claim 5 wherein said offset is in a direction of rotation of said rotor.

9. An alternating current (AC) generator including an armature core having a plurality of teeth separated by intervening slots with a slot pitch, at least one multiphase winding disposed on said armature core, and a rotor disposed in said armature having a plurality of pairs of rotor poles, each pair respectively configured
5 for energization in opposite magnetic polarity, said poles comprising a trapezoidal shape having a base, a leading side, a trailing side, and a tip side, said leading side having a plurality of portions, wherein said tip side is offset relative to said base, wherein said leading edge has a first portion extending from said tip sloping at a first rate, said leading side having a second portion extending from said first portion
10 sloping at a second rate less than said first rate, said first portion slopes between about one and two slot pitches and said second portion slopes between about one-half and one and one-half slot pitches, wherein said trapezoidal shape further includes a pair of shank portions extending from said base.